

DISASTER OPERATIONS PLAN (DOP) FOR SAN JOSE MUNICIPAL WATER SYSTEM (SJMWS) APRIL 2005

GOAL

To establish and maintain water supply and service at the time and place and in quantities required by prevailing circumstances, utilizing manpower, equipment and materials in the event of water quality emergencies, physical emergency, and disaster.

The plan identifies the actions necessary to prepare for and conduct emergency operations.

SCOPE

Identify the discrepancies between existing system capabilities and disaster operation requirements; and the methods and procedures to be used to fill this gap, i.e.:

- A. Fix lines of authority/command responsibilities
- B. Identify training requirements for personnel
- C. Equipment acquisition: standby/alternate
- D. General course of actions during and after disaster

KEY ELEMENTS OF DOP

A. Chain of Command

There are Operations and Management chains of command. The person highest in rank in each chain of command has the ultimate responsibility.

The Operations chain of command consists of, in order:

Mansour M. Nasser, Division Manager
Bob Wilson, Engineering Manager
Mary Hoang, O&M Manager
Ruben Torres, Principal Water System Technician
Augustine Martinez, Principal Water System Technician
Standby Duty Supervisor
Duty Technician

The Management chain of command, in the order to be contacted, is comprised of:

Fran McVey, Deputy Director of Environmental Services Department
John Stufflebean, Acting Director of Environmental Services Department
Del Borgsdorf, City Manager

B. Inventory of System Resources

Existing Resources - Normal Operations

SJMWS has four service areas: North San Jose/Alviso, Evergreen, Edenvale, and Coyote. The facilities described in this section can be located on the attached maps.

(1) North San Jose/Alviso Service Area (Map 1)

Source

San Francisco Water Department's Hetch Hetchy System

N 1 st St Turnout	7 MGD capacity
Zanker Road Turnout	14.4 MGD capacity

Well water: 4 wells with a total capacity of 5,600 gpm.

Transmission

A complete set of transmission and distribution systems maps is available at the City's Office of Emergency Services (OES). The maps can be found in Drawer #1 of the file cabinet where all the Emergency Plans are stored.

Storage

Trimble Road Reservoir, (pad)	3.00 MG capacity
Nortech Road Reservoir, (pad)	3.00 MG capacity

Booster Capacities

Trimble Road Pump Station	8,000 gpm
Nortech Road Pump Station	4,000 gpm

Treatment Capacities

None

Power Sources

PG&E at the wells. There are also 480V emergency connections at all wells for a portable power generator hookup.

Diesel pumps at Trimble Road Pump Station

Diesel pumps at Nortech Pump Station

Nortech Generator	Power: 60 KW	Fuel: Diesel
Portable Generator	Power: 350 KW	Fuel: Diesel

(2) Evergreen Service Area (Map 2)

Source

One hundred percent supplied by the Santa Clara Valley Water District (SCVWD), through the Penitencia and/or Santa Teresa Treatment Plants.

Four wells with a total capacity of 5,000 gpm.

Transmission

SJMWS's transmission maps available at the OES

Storage

Zone 1

Norwood Reservoir (buried)	2.5 MG
Cadwallader #1 (pad)	1.5 MG
Cadwallader #2 (pad)	<u>3.0 MG</u>
	7.0 MG

Zone 2

Slopeview Reservoir (partially buried)	1.0 MG
Fowler Reservoir (buried)	1.5 MG
Villa Vista Reservoir (pad)	0.3 MG
Aborn Reservoir (partially buried)	<u>1.0 MG</u>
	3.8 MG

Zone 3/4

Quimby Reservoir (partially buried)	1.3 MG
Villages Reservoir (pad)	2.5 MG
Toulon Reservoir (pad)	3.0 MG
Conrad Reservoir (pad)	4.0 MG
Ranches Reservoir (partially buried)	<u>1.5 MG</u>
	12.3 MG

Zone 5/6

Hidalgo Reservoir (pad)	1.5 MG
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TOTAL	<u>24.6 MG</u>
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Booster Capacities

Zone 2

Cadwallader Booster Station	2,500 gpm
Keaton Loop Booster Station	1,500 gpm
Crane Ridge Booster Station	1,000 gpm

Zone 3/4

Cadwallader Booster Station	2,500 gpm
Norwood Booster Station	4,000 gpm
Fowler Booster Station	2,000 gpm
Villa Vista Booster Station	2,500 gpm
Crane Ridge Booster Station	1,600 gpm

Zone 5/6

Villages Booster Station	3,000 gpm
Toulon Booster Station	2,500 gpm
Trowbridge Booster Station	2,500 gpm
Ranches Booster Station	2,000 gpm

Zone 7/8

Hidalgo Pump Station	150 gpm
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Treatment Capacities

Silver Creek Turnout	9 MGD - Fluoride only
Aborn Turnout	12 MGD - Fluoride only
Norwood Turnout	9 MGD - Fluoride only
Loupe Tuers Pump Station	7 MGD - Fluoride & chlorine

Power Sources

PG&E

Zone 2

Cadwallader Generator	Power: 500 KW	Fuel: 12 GPH diesel
Norwood Emergency Power Connection	Power: 480V	
Aborn Generator	Power: 135 KW	Fuel: 3.5 GPH diesel
Crane Ridge Generator	Power: 300 KW	Fuel: 7.7 GPH diesel

Zone 3/4

Cadwallader Generator	Power: 500 KW	
Fowler Generator	Power: 300 KW	Fuel: 7.7 GPH diesel
Crane Ridge Generator	Power: 300 KW	Fuel: 7.7 GPH diesel

Zone 5/6

Toulon Generator	Power: 500 KW	Fuel: 12 GPH diesel
Trowbridge Generator	Power: 500 KW	Fuel: 12 GPH diesel
Villages Emergency Power Connection	Power: 480V+	
Ranches Generator	Power: 175 KW	Fuel: 4 GPH diesel

Zone 7/8

Hidalgo Generator	Power: 50 KW	Fuel: 2 GPH diesel
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There are 480V emergency connections at wells for portable power generator hookup.

Portable Generator	Power: 350 KW	Fuel: 8 GPH diesel
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(3) Edenvale Service Area (Map 3)

Source

Three wells with a total capacity of 3,000 gpm on Silver Creek Valley Boulevard.

Transmission

SJMWS's transmission maps available at the OES

Storage

Edenvale Reservoir (pad) 3.0 MG capacity

Booster Capacities

None

Treatment Capacities

Emergency chlorination connections available

Power Sources

PG&E

Standby generator at well - Well #12 site

(4) Coyote Service Area (Map 3)

Source

Three wells with a total capacity of 5,550 gpm.

Transmission

SJMWS's transmission maps available at the OES

Storage

Coyote Reservoir 3.7 MG capacity

Booster Capacities

None

Treatment Capacities

Emergency chlorination connection available

Power Sources

PG&E

C. Emergency Resources

Emergency Contract Agreements

Alternate:

San Jose Water Company (SJWCo)
374 West Santa Clara Street
San Jose, CA 95196
(408) 279-7866
Contact: Jane Lenberger
See Exhibit A

For telemetry equipment:

Telekey
1350 Central Ave., #5
Santa Rosa, CA 95401-4765
(707) 569-3840
Contact: Nick Blackton

Electrical:

Souther Electric
265 Dillon Avenue
Campbell, CA 95008
(408) 879-9292
Contact: Raymond Souther, (408) 866-7180

Vincent Electric
8383 Baldwin Street
Oakland, CA 94621
(510)-832-1800
Contact: Thomas Marvin

Emergency Water Interconnections

6-inch connection with San Jose Water Company at King-Tully Road

8-inch connection with City of Santa Clara at De La Cruz-Trimble-Seaboard

Emergency Equipment and Suppliers (See Exhibit B)

D. Communication Network

Emergency Operations Centers

City-wide: The City's Office of Emergency Services is located at 855 N. San Pedro Street, Room 404. A representative from each City department sits on its Emergency Operations Center board. In an emergency, matters involving SJMWS must be directed to the Environmental Services Department representative to the EOC, at:

EOC's phone number: (408) 277-4595
ESD's phone number at EOC: (408) 277-5669

SJMWS: In an emergency, all Water System personnel should report to its own Emergency Operations Center, which is the shop area of the Loupe Tuers Operations Building at:

3025 Tuers Road
San Jose, CA 95121
277-5180 or 277-5101 (Shop)
277-4218 or 277-3671 (Admin.) or 277-4036 (Billing)

Emergency Water Suppliers

San Jose Water Company (SJWC)
374 W. Santa Clara Street
San Jose, CA 95196
George Belhumeur, Operations Mgr., (408) 279-7805
Scott Yoo, Water Quality Mgr., (408) 279-7818

San Francisco Water Department (SFWD)
(415) 972-5900

Santa Clara Valley Water District (SCVWD)
5750 Almaden Expressway
San Jose, CA 95118
(408) 265-2600

Rinconada Treatment Plant
400 More Avenue
Los Gatos, Ca 95030
(408) 395-8121 (24 hours)

Penitencia Treatment Plant
3550 Whitman Way
San Jose, CA 95132
(408) 923-7222 (24 hours)

Santa Teresa Treatment Plant
7011 Greystone Lane
San Jose, Ca 95120
(408) 927-0472 (24 hours)

City of Santa Clara, Water Department
1500 Warburton
Santa Clara, CA 95050
Contacts: Mr. Robin Saunders, (408) 615-2011

Great Oaks Water Company
6146 Camino Verde Drive
San Jose, CA 95119
Contacts: Mr. Alan Gardner, (408) 227-9540

Coordination with Governmental Agencies

In case of emergency, various utility companies will have their representatives at the City's Emergency Operations Center. They can be reached directly at (408) 277-5594. In addition, their own emergency phone numbers are listed below.

Emergency Numbers

SJWC (408) 279-7900

PG&E (408) 225-5589
(408) 227-2414
(408) 227-1113

SCVWD (408) 265-2600
(408) 264-9026
(408) 269-6172

All communications to the public and mass media are handled by the City's Public Information Office, through:

David Vossbrink
Mayor's Office
City Hall Annex - Room 500
Office No.: (408) 277-5800

Lindsey Wolf
ESD Media Liaison

E. Emergency Procedures

A plan of action to maximize the use of reduced resources, activation of emergency supply connections, emergency pumping and/or reservoir backfeeding, equipment use and acquisition, and repairs.

This plan consists of seven phases:

1. Mobilization of Water Personnel

The Standby Duty Supervisor is responsible for mobilizing the emergency team. In the event all communications lines are out, it is the responsibility of each Water System employee to report to the SJMWS Emergency Center. Please refer to the SJMWS Emergency Call-Back Personnel List (Exhibit C).

2. Damage Assessment

The emergency team should check readings on the telemetry equipment at the Loupe Tuers shop. Things to look out for: pressure losses, low flows, low reservoir levels.

Water technicians should be dispatched to physically inspect for structural and other damages to SJMWS facilities, with the aid of a standard checklist, DISASTER ASSESSMENT REPORT (Exhibit D).

In the event all transportation systems are out, the emergency team should contact the City's EOC, who in turn will request the Police and/or Fire Department to assess damage to water system facilities.

3. Emergency supply activation within system:

Evergreen

Four wells with a combined capacity of 5,000 gpm	7.2 MG
Slopeview Reservoir	1.0 MG
Norwood Reservoir	2.5 MG
Quimby Reservoir	1.3 MG
Villages Reservoir	2.5 MG
Fowler Reservoir	1.5 MG
Villa Vista	0.3 MG
Cadwallader #1 Reservoir	1.5 MG
Cadwallader #2 Reservoir	3.0 MG
Hidalgo Reservoir	1.5 MG
Conrad Reservoir	4.0 MG
Ranches Reservoir	1.5 MG
Aborn Reservoir	1.0 MG
Toulon Reservoir	3.0 MG
Total Reservoir:	<u>24.6 MG</u>
Aborn Turnout	12.0 MGD
Norwood Turnout	9.0 MGD
Silver Creek Turnout	<u>9.0 MGD</u>
Total Turnout	<u>30.0 MGD</u>
SJWC connection at King-Tully:	1.44 MGD
Total Supply in Evergreen	<u>63.24 MGD</u>

North San Jose

Four wells with a combined capacity of 5,600 gpm	8.06 MGD
Trimble Road Reservoir	3.00 MG
Nortech Road Reservoir	3.00 MG
City of Santa Clara connection	1.15 MGD
SJWC connection	1.44 MGD
Hetch Hetchy Turnout	7.00 MGD
Zanker Turnout	<u>14.40 MGD</u>
Total	<u>38.05 MGD</u>

Edenvale

Three wells with a combined capacity of 3,000 gpm:	4.32 MG
Edenvale Reservoir	<u>3.00</u> MG
Total	<u>7.32</u> MG

Coyote

Three wells with a total capacity of 5,550 gpm	8.0 MGD
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4. Repairs and restore supply service
5. Monitor progress of repairs and restoration

All personnel working on repairs must check back with the Loupe Tuers shop area to give a progress report.

In an emergency, the emergency duty roster will be comprised of the five following teams, each performing a distinct function:

Higher management:	Provides leadership
Field Operations:	Water system technicians assess damages and take care of equipment logistics.
Engineering Corps:	Responsible for contractual repairs, normal and emergency water supply, water quality, and replacement intelligence.
Communications Team:	Handles telephones and radios. Will send out notifications and/or callbacks to technicians/engineers in field.
Recordkeeping Team:	Keeps a detailed log of all activities and happenings during the emergency.

6. Communications with health officials and users on supply status

California Department of Health Services
Drinking Water Field Operations Branch
850 Marina Bay Parkway, Building P, 2nd Floor
Richmond, CA 94804
Eric Lacy, (510) 620-3453
Eugene Leung, (510) 620-3460

Santa Clara County Environmental Health Department
Consumer Protection Division
1555 Berger Drive, Suite #300
San Jose, CA 95112
Suzanne Muzzio
(408) 918-3400
(408) 918-3411

7. Document all damages and repairs

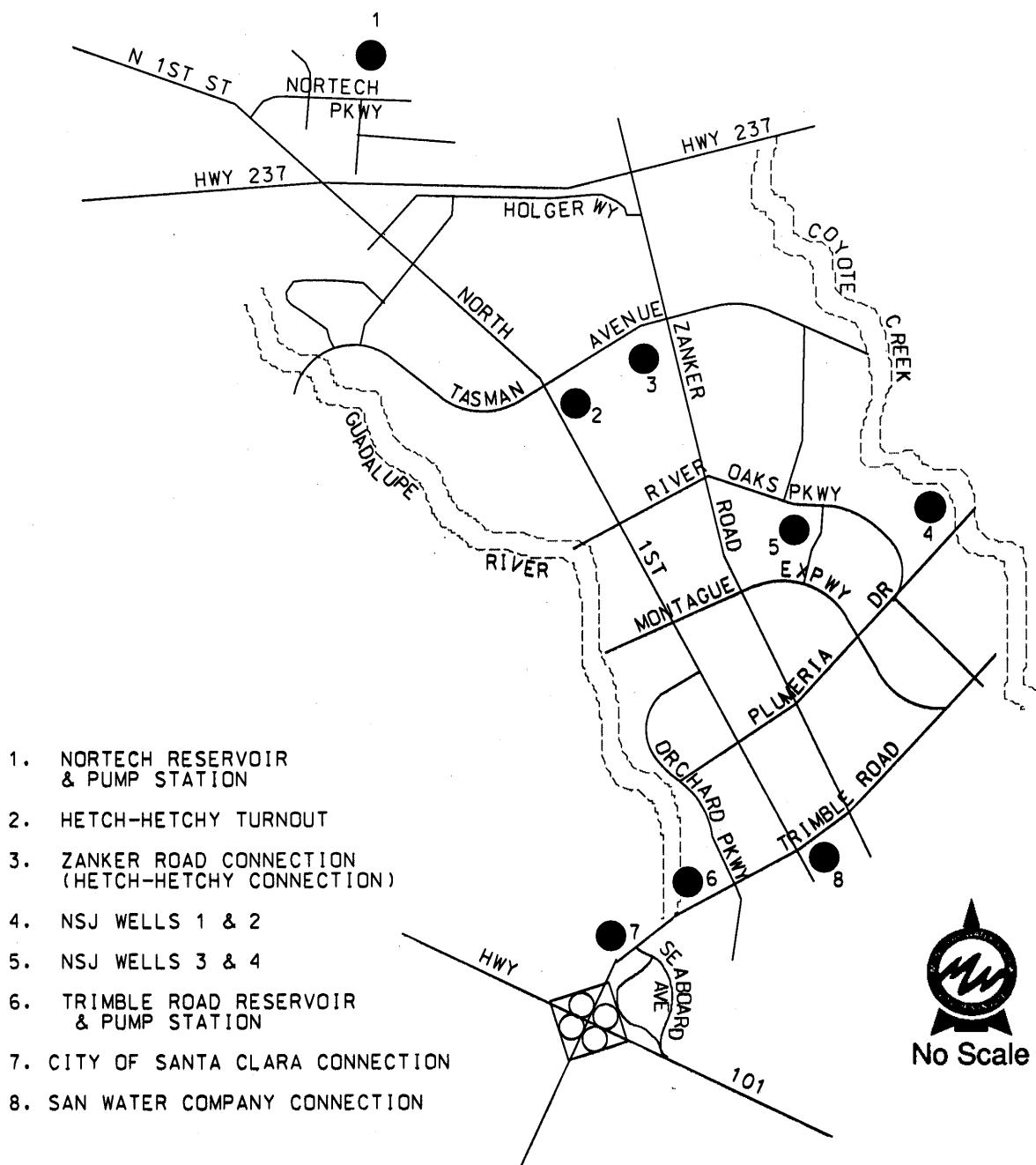
F. Service Restoration

Resume normal operations, prepare and submit reports to appropriate agencies.

**SAN JOSE MUNICIPAL WATER SYSTEM
NORTH SAN JOSE/ALVISO FACILITIES
(Shown on Map 1 attached)**

1. Nortech Reservoir and booster pump station at east end of Nortech Parkway. Nortech Parkway is off N. First Street, north of Highway 237.
2. Hetch Hetchy Turnout - east side of North First Street, 400 feet south of Tasman: The main connection with Hetch Hetchy transmission pipes.
3. Zanker Road Turnout - West side of Zanker Road approximately 500 feet south of Tasman Drive.
4. North San Jose Wells 1 & 2 - River Oaks Parkway at Seeley Avenue, enter easterly through Galleria Development.
5. North San Jose Wells 3 & 4 - south side of Montague Expressway, 500 feet and 1,000 feet east of Zanker Road.
6. Trimble Road Reservoir and Booster Station - north side of Trimble Road, 500 feet east of Guadalupe River, 3 million gallon steel tank and pump building.
7. City of Santa Clara 8" connection - northern side of DeLaCruz-Trimble-Seaboard intersection.
8. San Jose Water Company 4" connection - south side of Trimble Road, east of North First Street.

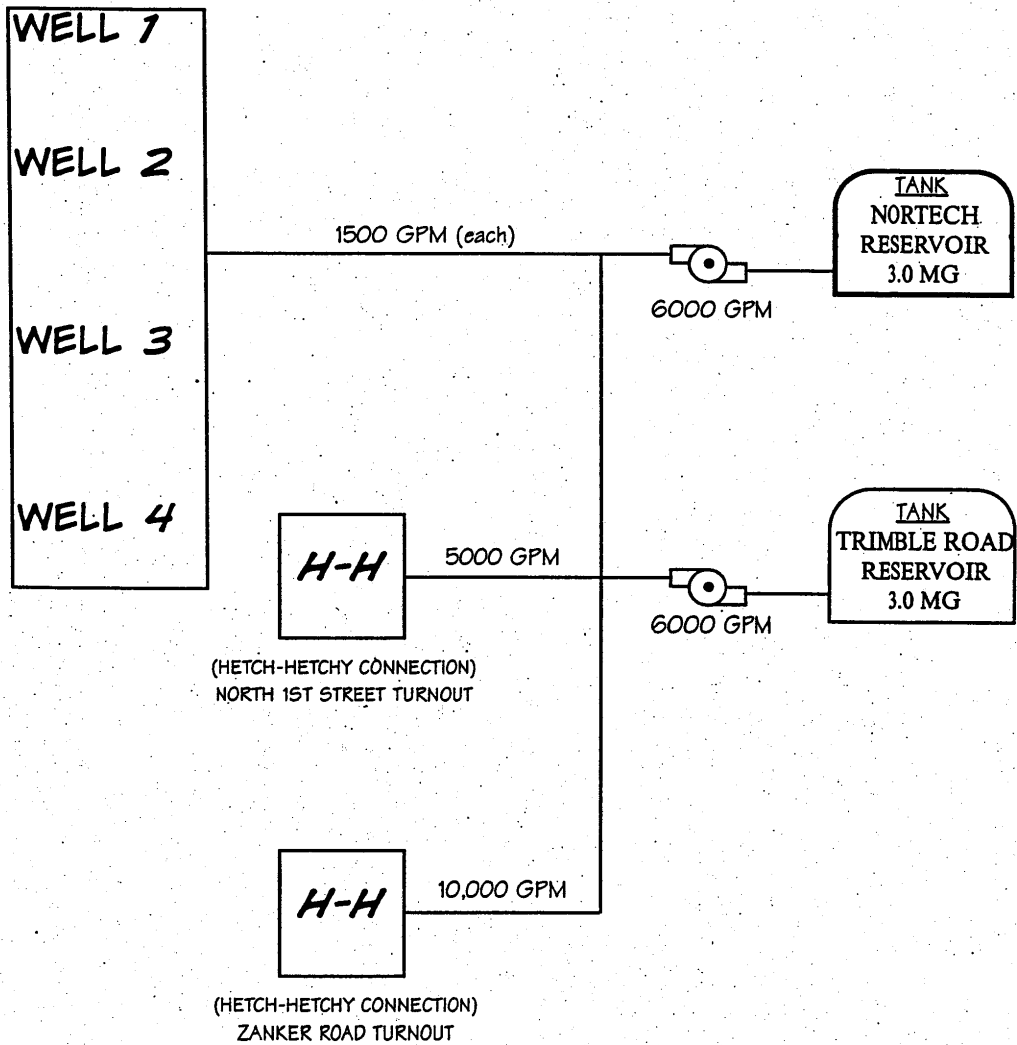
MAP 1 – NORTH SAN JOSE/ALVISO



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SAN JOSE MUNICIPAL WATER SYSTEM - NORTH SAN JOSE/ALVISO

ONLY ONE ZONE

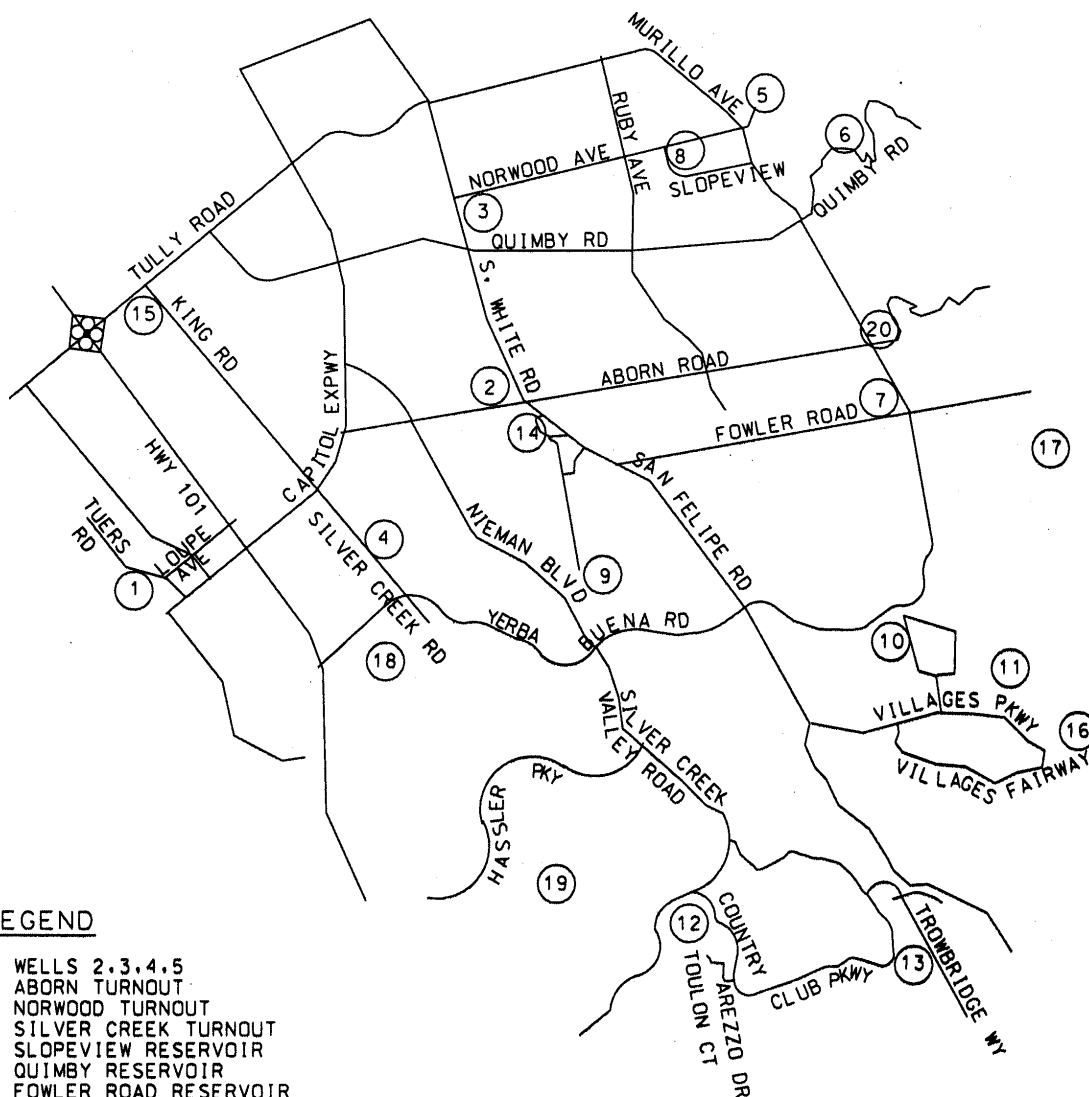


**SAN JOSE MUNICIPAL WATER SYSTEM
EVERGREEN FACILITIES
(SHOWN ON MAP 2 ATTACHED)**

1. Wells 2, 3, 4 and 5 - south west corner of Loupe Avenue and Tuers Road - Water System main yard, seven buildings, and various storage containers, extends to Los Lagos Golf Course on the west and behind to Capitol Expressway on the south.
2. Aborn Turnout - west side of White Road, 200 feet north of Aborn Road, just next to Union 76 gas station and before shopping center parking lot, major connection with Santa Clara Valley Water District's White Road pipeline. Has fluoridation tank in underground vault.
3. Norwood Turnout - south east corner of White Road and Norwood Avenue, major connection with Santa Clara Valley Water District's White Road pipeline. Has fluoridation tank in underground vault.
4. Silver Creek Turnout - east side of Silver Creek Road - south west corner of Silver Creek High School property (next to tennis courts). Fluoridation tank and underground vault. Major connection to SCVWD Snell Pipeline.
5. Slopeview Reservoir - north side of Slopeview Drive, 500 feet east of Murillo Avenue, 1,000,000 gallon concrete tank, serves Zone 2.
6. Quimby Reservoir - east side of Quimby Road 3,000 feet east of Murillo Avenue, 1,300,000 gallon concrete tank on rural section of Quimby, serves Zone 3 & 4.
7. Fowler Road Reservoir and Booster Station - north side of Fowler Road, opposite La Costa Way, 1,500,000 gallon buried concrete tank and pump station, serves Zone 3 & 4.
8. Norwood Reservoir and Booster Station - south side of Norwood Avenue, opposite Norcross Drive, 2,500,000 gallon buried concrete tank and pump station, serving Zone 2.
9. Cadwallader Reservoirs 1 and 2 and Booster Station east side of Cadwallader Avenue, 1,000 feet south of Prunetree Lane at end of one lane road. A 1,560,000 gallon and a 3,000,000 gallon steel tank and pumping facilities for Pressure Zone 2 and Pressure Zone 3/4.
10. Villa Vista Reservoir and Booster Station - south side of Villa Vista Road, 600 feet southeast of Yerba Buena Road, 300,000 gallon steel tank and pump station serving Zone 2.
11. Villages Reservoir and Booster Station - inside Villages, 400 feet down driveway that heads north from the corner of Portree Drive and Caldeonia Drive. Backs up to Yerba Buena Creek, 2,500,000 gallon steel tank and pump station serves Zone 3 & 4.
12. Toulon Reservoir and Booster Station - inside Silver Creek Country Club, 200 feet up driveway from Toulon Court off Arezzo Drive. 3,000,000 gallon steel tank and pump station, serves Zone 3 & 4.
13. Trowbridge Booster Station on west side of Trowbridge Avenue, serves Zone 5 & 6.

14. Keaton Loop Booster Station - south side of Keaton Loop, 150 feet west of San Felipe Road. Pump station facilities serving Zone 2.
15. San Jose Water Company 6" connection - King and Tully Road.
16. Hidalgo Reservoir and Booster Station-east end of Village View Drive, services Zones 7 & 8, 1.5 MG and pump facilities.
17. Conrad Reservoir - east side of Yerba Buena Road opposite Altia Avenue. 4.0 mg above ground steel reservoir serving Zone 3 & 4.
18. Crane Ridge Booster Station - north side of Crane Ridge Lane opposite Crystal Hollow Place. Pump station serves Zone 2 and Zone 3 & 4.
19. Mountaire Reservoir and Booster Station - south end of Mountaire Lane. 1.5 mg buried concrete reservoir and pump station serves Zone 5 & 6.
20. Aborn Reservoir and Booster Station – east end of Aborn Road. 1.0 mg partially buried concrete reservoir and pump station serving Zone 2.

MAP 2 – EVERGREEN



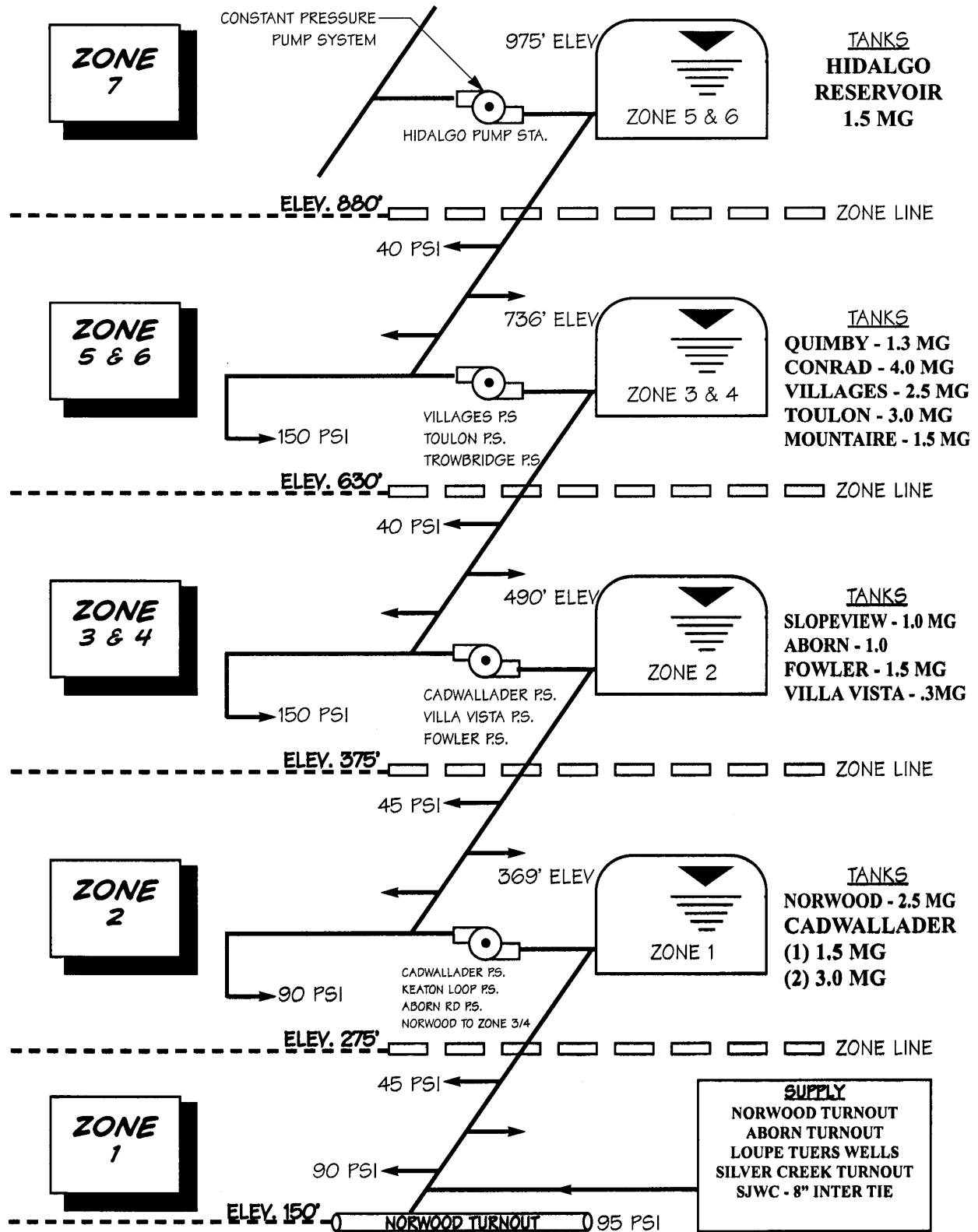
LEGEND

1. WELLS 2,3,4,5
2. ABORN TURNOUT
3. NORWOOD TURNOUT
4. SILVER CREEK TURNOUT
5. SLOPEVIEW RESERVOIR
6. QUIMBY RESERVOIR
7. FOWLER ROAD RESERVOIR & BOOSTER STATION
8. NORWOOD RESERVOIR & BOOSTER STATION
9. CADWALLADER RESERVOIR & BOOSTER STATION
10. VILLA VISTA RESERVOIR & BOOSTER STATION
11. VILLAGES RESERVOIR & BOOSTER STATION
12. TOULON RESERVOIR & BOOSTER STATION
13. TROWBRIDGE BOOSTER STATION
14. KEATON LOOP BOOSTER STATION
15. SAN JOSE WATER COMPANY 6" CONNECTION
16. HIDALGO RESERVOIR & BOOSTER STATION
17. CONRAD RESERVOIR
18. CRANE RIDGE BOOSTER STATION
19. MOUNTAIRE RESERVOIR & BOOSTER STATION
20. ABORN RESERVOIR & BOOSTER STATION



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San Jose Municipal Water System - Evergreen

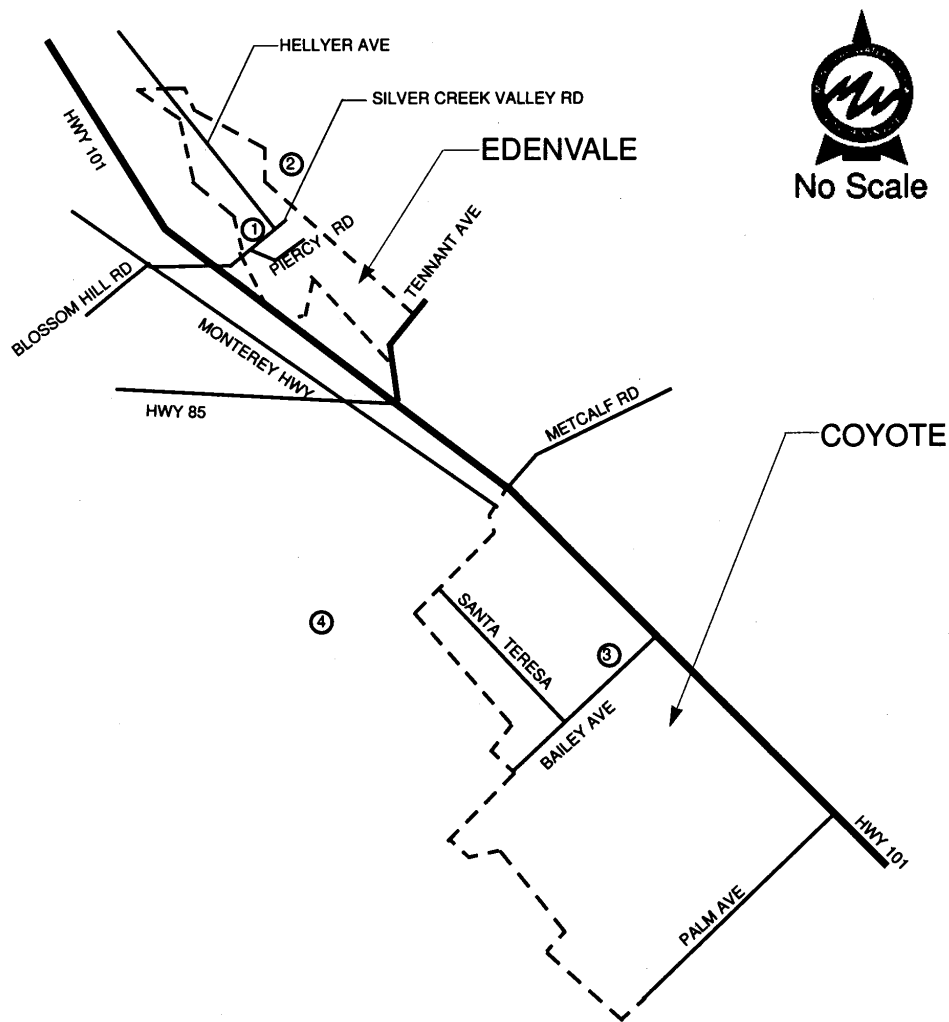


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**SAN JOSE MUNICIPAL WATER SYSTEM
EDENVALE-COYOTE FACILITIES
(see Map 3 attached)**

1. Edenvale Wells - north side of Silver Creek Valley Road, 100 feet east of Piercy Road - three wells individually fenced.
2. Edenvale Reservoir - 2,000 feet up private driveway that leads northeast from intersection of Silver Creek Valley Road and Hellyer Avenue. A 3 million gallon steel tank on hill in middle of pasture.
3. Coyote Wells - north side of Bailey Avenue, directly east of Southern Pacific Railroad along Monterey Road, gravel driveway leads 400 feet north along railroad.
4. Coyote Reservoir – Located off private driveway located off Santa Teresa Boulevard. A 3.7 million gallon steel tank near top of hill, at end of paved driveway.

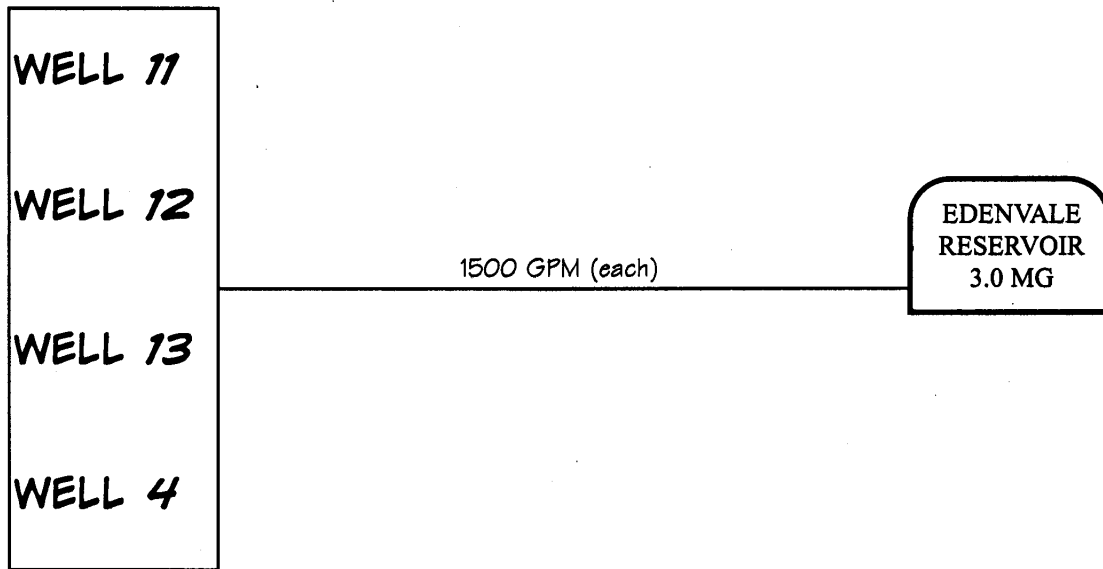
MAP 3 – EDENVALE & COYOTE



COYOTE

1. EDENVALE WELLS #11,#12,#13
2. EDENVALE RESERVOIR
3. COYOTE WELLS
4. COYOTE RESERVOIR

SAN JOSE MUNICIPAL WATER SYSTEM - EDENVALE



SAN JOSE MUNICIPAL WATER SYSTEM - COYOTE

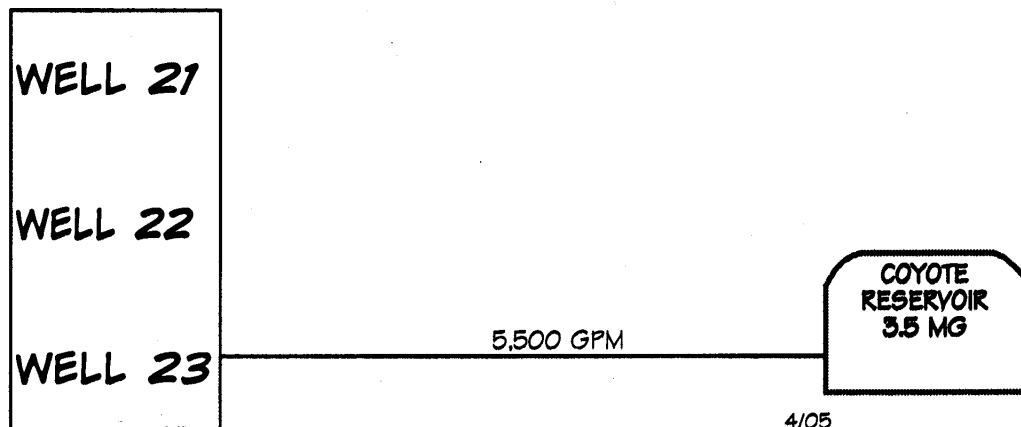


EXHIBIT A

**EMERGENCY CALLOUT LIST
FOR CITY OF SAN JOSE
MUNICIPAL WATER SYSTEM CONSTRUCTION/REPAIR**

EXHIBIT B

EMERGENCY EQUIPMENT AND SUPPLIERS

EXHIBIT C

**SAN JOSE MUNICIPAL WATER SYSTEM
EMERGENCY CALL-BACK PERSONNEL LIST**

EXHIBIT D

MUNICIPAL WATER SYSTEM DISASTER ASSESSMENT REPORT